

Work Order ID 63848

Tuesday, November 16, 2010 1:34:44 PM



Page 1

Item ID: D350-636-012

Accept



Setup Start



Revision ID:

Item Name: Skidtube RH

Stop



Start Date: 11/16/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 11/30/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: 10-11-16

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

IIN-D350-636

H

0.00

100



DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy blue file and type labels per PPP D350-636-012 CHG 006

S 10/16/10

J for BG 10-11-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Date:

Run

Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110



Skidtubes

Skidtubes

Skidtubes

Memo

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-2 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.
SECOND SIDE

8-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail L to 0.500" (8 holes per side)

9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

BB

10/11/22

W/O:		WORK ORDER CHANGES					
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004

A/R Aluminum Rod batch: ☐ M115778

BE 10/11/22

12-Grind welds flush as per Dwg D2750

BE 10/11/23

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

8 10/11/23

Memo

0.00

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

8 10/11/23

Memo

0.00

to

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Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 0 8E10/1/23

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

DD 10-11-23

W/O:		WORK ORDER CHANGES					
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5-11-								

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Date:

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side) as per dwg D2750.

3-Open float holes to .500" (4 per Side)

4-Chamfer holes of Detail K, L, ground handling and float holes per dwg D2750 (welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6-Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ Sikaflex-291batch: 116040 ☐ ☐ ☐

exp. date: 11-9-30

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 9)

A/R ☐ Aluminum Rod

batch: M115778

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

11-Spot face ground handling holes section (total of 4 places per side) as per

BE 10/11/23

BE 10/11/23

BE 10/11/24

BE 10/11/24

BE 10/11/25

BE 10/11/25

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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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dwg D2750

12-Deburr holes

BE 10/11/25

0.00

0.00

Soulbs

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

Memo

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

Soulbs

(H)

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Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start

QC: Date: SPC (Y/N): Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

Pressure Wash per QSI005 4.3

0.00

=> M 10/11/26

1 0

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

M 115981

1 BR 10-11-29

Powdercoat

Memo

0.00

Powder Coating

START TIME: 10:25
OVEN TEMPERATURE: 320
FINISH TIME: 10:55

210

QC3- Inspect Part Finish

0.00

=> M 10/11/29

1 0

QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

W/O:		WORK ORDER CHANGES					
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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

220

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

✓ Install inserts as per dwg D2750

⇒ 91 10/11/30

X1

Ø

230

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

✓ 1-Inspect for Foreign Objects

✓ 2-Spray inside of tube with "LPS-3"
batch: N/A3-Install blade fitting D3488-042, wearshoes and ground handling hardware as
per dwg D2750

SIKA FLEX 241

BATCH: M115114EXP DATE: 11/01

4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube

✓ A/R 55-o-ring lube batch: M114189

5-Coat all exposed fasteners with "LPS Procyon"

batch: M114596

⇒ 91 10/11/30

1

Ø

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				(80)			
250  Packaging Packaging	Pick Kit Memo	0.00 0.00							11/11/30
260  QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.00							

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Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270



Packaging

Packaging

Packaging

Memo

Package as per PPP D350-636-012

0.00

0.00

Loc 72
RCH

0121

SP

280



QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

10/12/01

mr
10-12-01

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Picklist Print

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Page 1

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Parent Item: D350-636-012

Parent Item Name: Skidtube RH



Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-29 As per Rev D EC
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates(Rev E) JLM Verified By: EC
 IPP Rev: M 08-04-22 update steps 4,13 DD verified by: EC
 IPP Rev: N 08-09-23 revF as per dwg DD verified by: ec IPP Rev: O
 10.06.22 revise seq110 DD verf: EC IPP Rev: P 10.10.01 as
 per IIN revH DD verf: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS4-1032-225 		Purchased	No			220	Each	4,520.000	38	38			
Insert													
				<u>Location</u>				<u>Loc Qty</u>					
				PK011				4520					
				110768				4520					
AN3C5A 		Purchased	No			230	Each	888.0000	34	34			
Bolt													
				<u>Location</u>				<u>Loc Qty</u>					
				ST350				878					
				114330				11					
				115015				13					
				115371				100					
				115422				100					
				115594				282					
				115835				372					
				ST351				10					
				113121				10					

11/16/29

x38

11/16/29

x34

W/O:		WORK ORDER CHANGES					
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Start Qty: 1.00


Required Qty: 1.00

AN3C6A Purchased No 230 Each 245.0000 4 4

 BOLT

Location Loc Qty Loc Code

ST351 245

111982 245

AN6C44A Purchased No 230 Each 119.0000 4 4

 BOLT

Location Loc Qty Loc Code

FG 2

103964 2


ST344 117

111649 2

114653 1

114941 64

115936 50

AN8C35A Purchased No 230 Each 54.0000 1 1

 BOLT


Location Loc Qty Loc Code

ST346 54

114442 5

115188 22

115960 27

AN960C10L NAS1149C0332 Purchased No 230 Each 25.0000 38 38

 washer

Location Loc Qty Loc Code

ST245 25

107534 25

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Shop Packet Print

Page 2

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Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C816L

Purchased No

230

Each

0.0000

1

1



WASHER NAS1149C0882R X?

M114915



xl 10/11/29

D2745

Manufactured No

230

Each

265.0000

8

8



Bushing



xl 10/11/29

Location

Loc Qty

Loc Code

ST023

265

52311

5

59112

4

61203

44

61988

104

63315

108

x8

D3488-042

Manufactured No

230

Each

24.0000

1

1



Blade Fitting Assembly, RH



xl 10/11/29

Location

Loc Qty

Loc Code

FP008

15

59643

5

62003

10

FP18

9

61690

9

x1

D3492-041

Manufactured No

230

Each

76.0000

8

8



Plug Assembly



xl 10/11/29

Location

Loc Qty

Loc Code

FP013

76

59114

1

61987

14

62210

61

x8

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Start Qty: 1.00

Required Qty: 1.00

D3492-043

Manufactured No

230 Each

85.0000 8 8



Plug Assembly



10/11/29

Location

Loc Qty

Loc Code

FP

2

54682

2

FP013

83

59117

1

59190

4

62663

78

v8

D3535-25

Manufactured No

230 Each

21.0000 1 1



Wearshoe



10/11/29

Location

Loc Qty

Loc Code

FP18

21

62033

7

62233

14

x1

D3536-25

Manufactured No

230 Each

4.0000 1 1



Gasket



10/11/29

Location

Loc Qty

Loc Code

FP12

4

61707

4

x1

D3537-1

Manufactured No

230 Each

27.0000 3 3



Wearpad



10/11/29

Location

Loc Qty

Loc Code

FP017

27

62661

9

63313

18

B62928

x8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 5

Work Order ID: 63848

Parent Item: D350-636-012



Parent Item Name: Skidtnbe RH

Start Date: 11/16/2010



Required Date: 11/30/2010

Start Qty: 1.00



Required Qty: 1.00

D3631-1	Manufactured	No	230	Each	281.0000	8	8
							<u>21 10/11/29</u>
Washer							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST072	281	
60755	81	<u>x8</u>
63647	200	

D3672-1	Manufactured	No	230	Each	667.0000	4	4
							<u>21 10/11/29</u>
Phenolic Washer							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
ST077	667	
42329	10	<u>x4</u>
<u>52505</u>	657	

D3791-1	Manufactured	No	230	Each	19.0000	1	1
							<u>21 10/11/29</u>
Wearplate							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP17	19	
<u>61702</u>	7	<u>x1</u>
62239	12	

D3793-1	Manufactured	No	230	Each	16.0000	1	1
							<u>21 10/11/29</u>
Wearshoe							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP18	16	
59151	1	
59630	1	
<u>61244</u>	1	<u>x1</u>
61710	13	

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, November 16, 2010 1:34:49 PM

Work Order ID: 63848

Parent Item: D350-636-012

Parent Item Name: Skidtube .H

Start Date: 11/16/2010

Required Date: 1/30/2010

Start Qty: 1.00

Required Qty: 1.00

D3793-3

Manufactured No

230 Each

13.0000 1



Wearshoe



11/16/29

Location

Loc Qty

Loc Code

FP18

12

61711

12

FP19

1

57947

1

D3794-1

Manufactured No

230 Each

20.0000 1



Gasket



11/16/29

Location

Loc Qty

Loc Code

FP010

20

61704

20

D3794-3

Manufactured No

230 Each

25.0000 1



Gasket



11/16/29

Location

Loc Qty

Loc Code

FP10

24

60826

1

61712

23

FP18

1

59153

1

MS21043-6

Purchased No

230 Each

618.0000 4



NUT



11/16/29

Location

Loc Qty

Loc Code

ST301

618

112314

618

X11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Tuesday, November 16, 2010 1:34:49 PM

Work Order ID: 63848

Parent Item: D350-636-012

Parent Item Name: kidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

87.0000

1

1



NUT



10/11/29

Location

Loc Qty

Loc Code

ST303

87

113845

5

114934

3

115594

29

115884

50

NAS1611-010

Purchased

No

230

Each

309.0000

8

8



O-RING



10/11/29 PTO =>

Location

Loc Qty

Loc Code

FP

309

110715

100

110915

159

115589

50

NAS1611-013

Purchased

No

230

Each

228.0000

8

8



O-RING



10/11/29

Location

Loc Qty

Loc Code

FP

228

115460

100

115589

28

115812

100

x8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10/11/29	230	Replacc NAS 1611-010 "O" Rings with D2594-3/M61672 "O" Rings	jd	10/11/29	x8		8 10/11/29

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 8

Work Order ID: 63848

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

AN8C21A

Purchased No

250

Each

45.0000

2

2

BOLT

Location

Loc Qty

Loc Code

ST345

45

113558

1

114653

4

115723

40

AN960JD816

Purchased No

250

Each

123.0000

2

2

1/2" washer, Alum

Location

Loc Qty

Loc Code

ST348

123

106043

123

D2741

Manufactured No

250

Each

25.0000

1

1

Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST466

25

60210

25

D3493-1

Manufactured No

250

Each

36.0000

2

2

Washer

Location

Loc Qty

Loc Code

ST062

36

61672

36

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 63848

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

D3532-1

Manufactured No

250 Each

47.0000

2



Spacer



2
11/11/30

sl

Location

Loc Qty

Loc Code

ST065

47

61673

5

62218

42

2

D3672-13

Purchased No

250 Each

792.0000

2



Phenolic Washer



2
11/11/30

sl

Remove

Location

Loc Qty

Loc Code

ST077

792

54363

792

2

Pto →

MS21083C8

Purchased No

250 Each

87.0000

1



NUT



2
11/11/30

sl

Location

Loc Qty

Loc Code

ST303

87

113845

5

114934

3

115594

29

115884

50

2

D2600-3-BENT

Manufactured No

110 Each

13.0000

1



Extrusion Bent



1

sl

Location

Loc Qty

Loc Code

LG

13

61634

4

62594

8

62764

1

1

BB 10/11/12

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Page 9

W/O: 63848		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10/2/01	#100	Perm. Change DB6 B-13 is to be removed from kit & Bom and w/b Pick List	[Signature]	10/2/01			J 10/2/01

Part No: D350-636-012 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 10

Work Order ID: 63848

Parent Item: D350-636-012

Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

D2744

Manufactured No

110

Each

39.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG

6

59198

6

ST

33

62715

33

1 BE 10/11/22

D2739

Manufactured No

160

Each

12.0000

1

1



350 I Beam

Location

Loc Qty

Loc Code

LG

12

62563

8

62688

4

1 BE 10/11/23

D2743

Manufactured No

160

Each

150.0000

8

8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

150

50281

10

57953

2

59111

31

61844

107

8 BE 10/11/24

D3490-3

Manufactured No

160

Each

39.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

39

60294

1

62668

38

4 BE 10/11/24

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 11

Work Order ID: 63848



Parent Item: D350-636-012



Parent Item Name: Skidtube RH

Start Date: 11/16/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

D3490-1

Manufactured No

160

Each

95.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

95

59424

3

61217

2

62450

90

4 BEC/11/24

Tuesday, November 16, 2010 1:34:49 PM

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Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

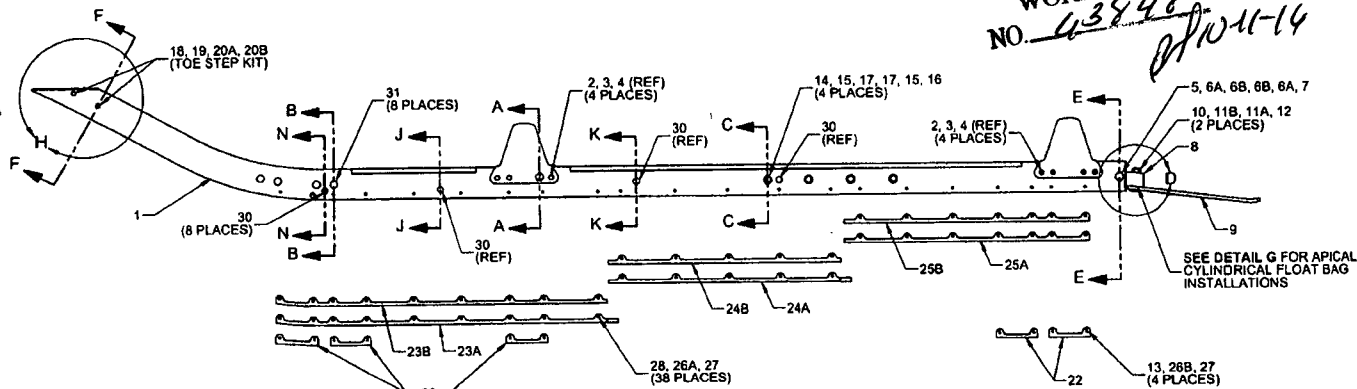
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

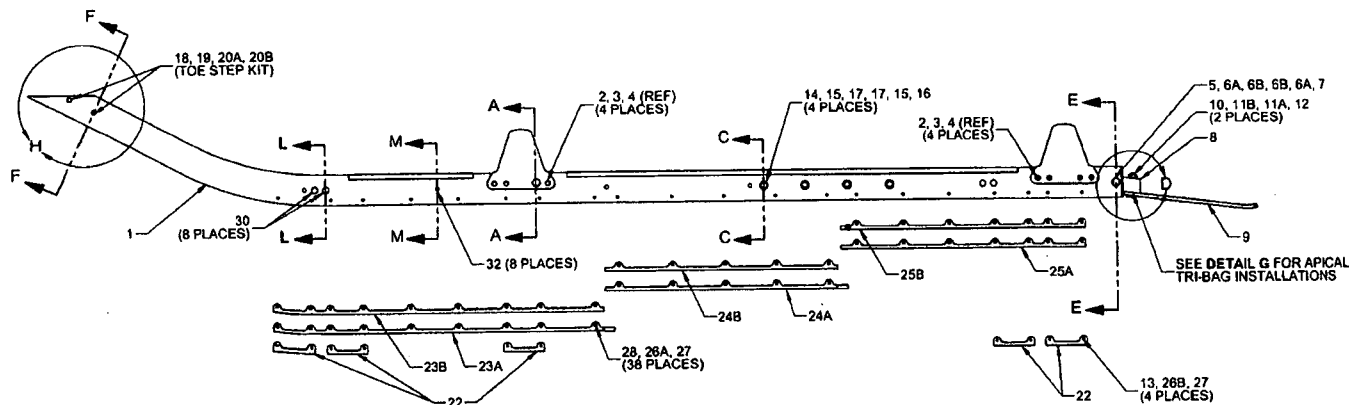
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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NO. 43848
210-11-14



D350-636-011/-012 ASSEMBLY
(Aerazur / Apical Cylindrical)



D350-636-013/-014 ASSEMBLY
(Aircruiser / Apical Tri-Bag)

Figure 1: D350-636-011/-012/-013/-014 SKIDTUBE ASSEMBLY AT CHG 003

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Date: 10.07.26

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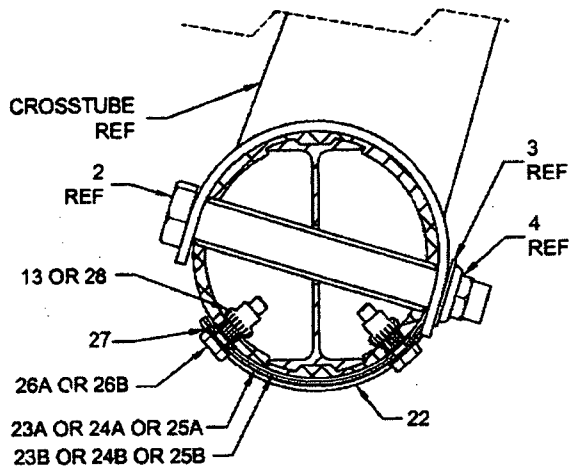
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

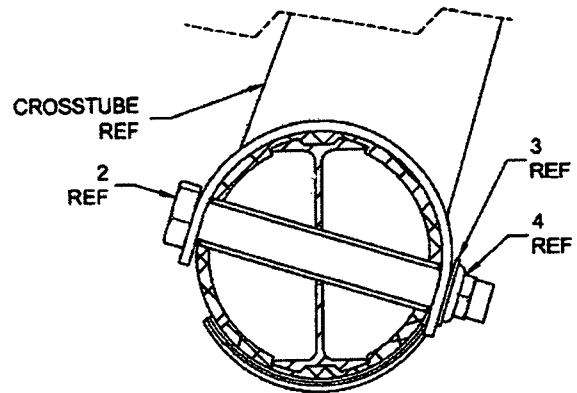
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



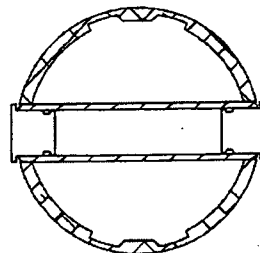
SECTION A-A

(D350-636-011/-012/-013/-014 SKIDTUBES
AT CHG 003 ONLY)



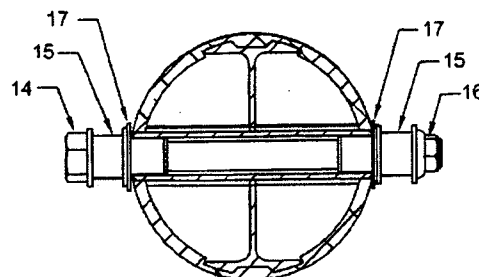
SECTION P-P

(D350-636-011/-012/-013/-014 SKIDTUBES
AT CHG 004 OR SUBSEQUENT)



SECTION B-B

(SECTION J-J, K-K, L-L AND M-M SIMILAR)
8 PL PER SKIDTUBE



SECTION C-C

4 PL PER SKIDTUBE

w/o 63848

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Date: 10.07.26

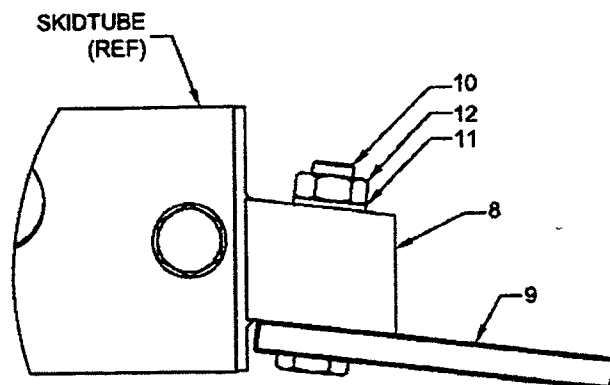
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

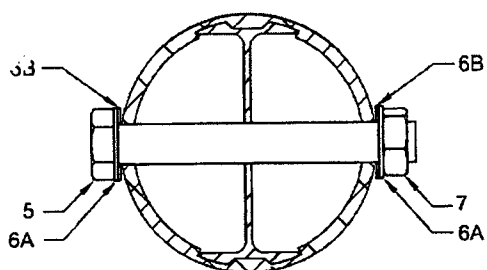
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

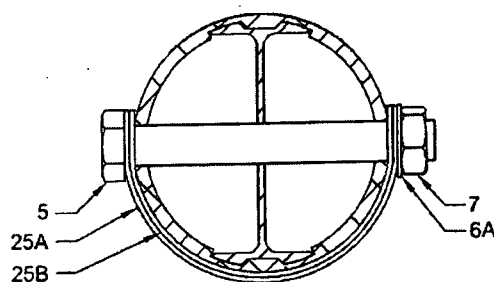
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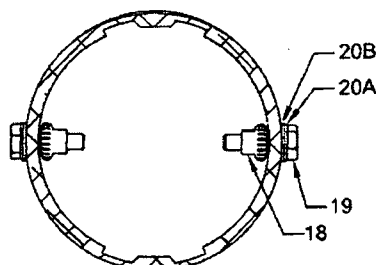
DETAIL D
1 PL PER SKIDTUBE



SECTION E-E
(D350-636-011/-012/-013/-014 SKIDTUBES
AT CHG 003 ONLY)



SECTION Q-Q
(D350-636-011/-012/-013/-014 SKIDTUBES
AT CHG 004 OR SUBSEQUENT)



SECTION F-F
2 PL PER SKIDTUBE

u/b 93848

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

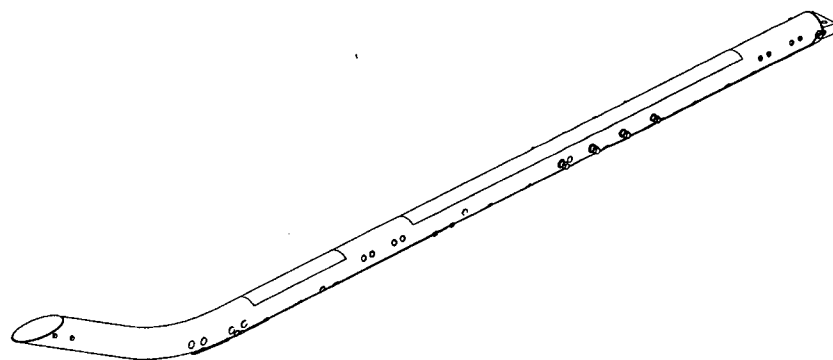
- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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BJ 10-11-18

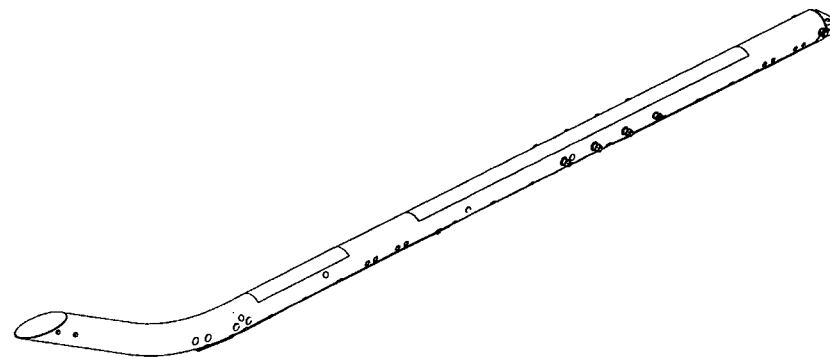
RELEASED
68-07-22

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEC 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	RE	DART AEROSPACE USA, INC.	
DRAWN	RE	PORT HADLOCK, VA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 1 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
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W/0 43848



D2750-041 350 SKIDTUBE ASSEMBLY, LH

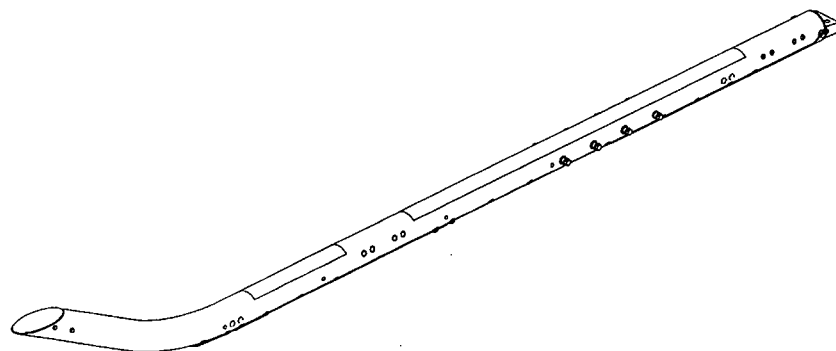


D2750-042 350 SKIDTUBE ASSEMBLY, RH

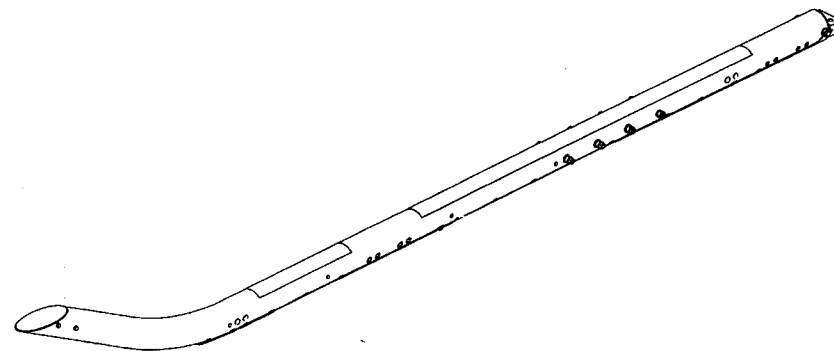
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18 APR 1977

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CHECKED	SA	DRAWING NO.	REV. F
MFG. APPR.	MP	D2750	SHEET 2 OF 11
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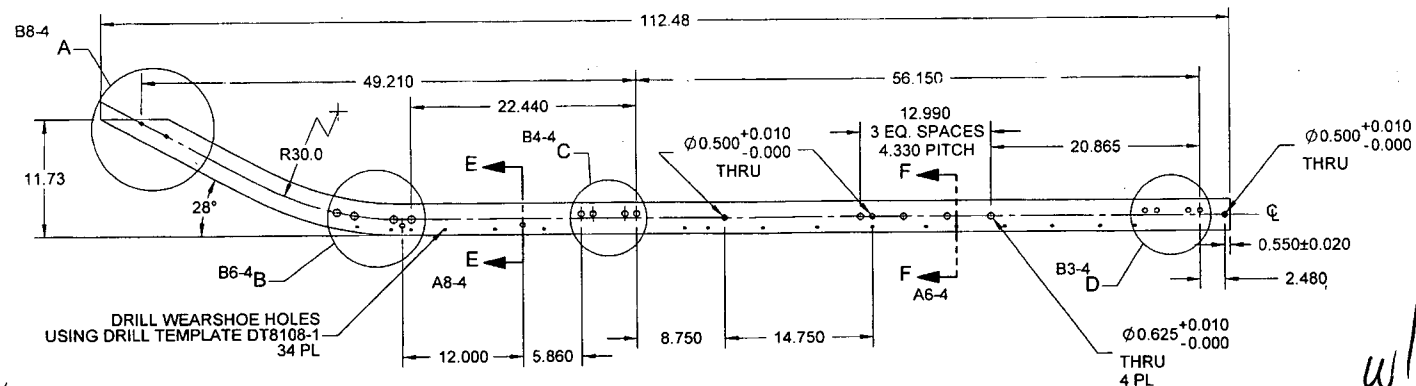
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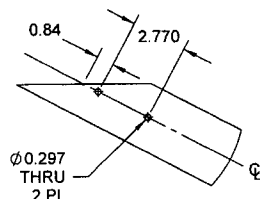
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68-9-22/100

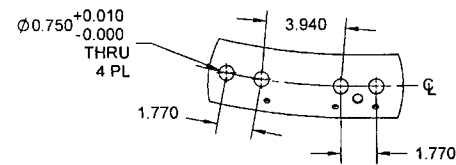
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MFG. APPR.		D2750	SHEET 3 OF 11
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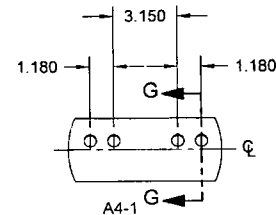
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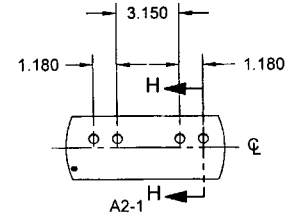
DETAIL A
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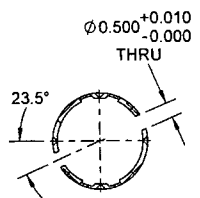
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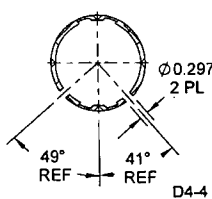
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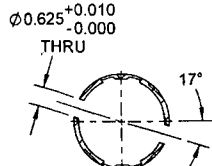
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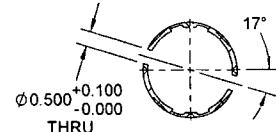
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



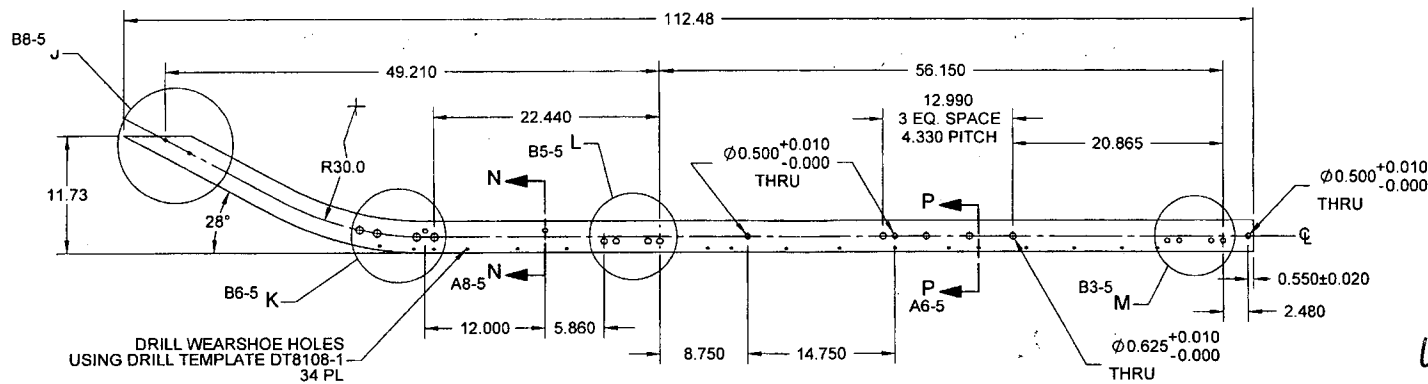
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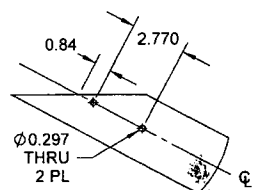
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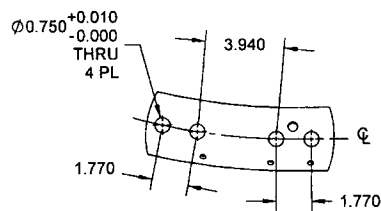
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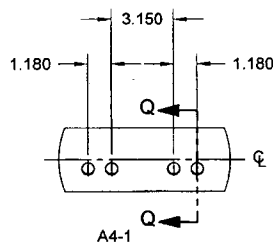
D2750-2 RH SKIDTUBE



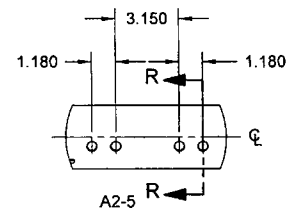
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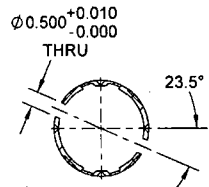
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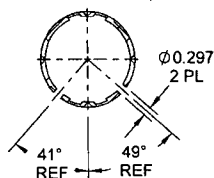
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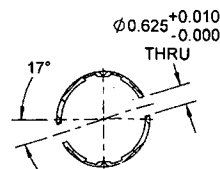
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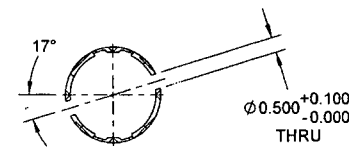
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



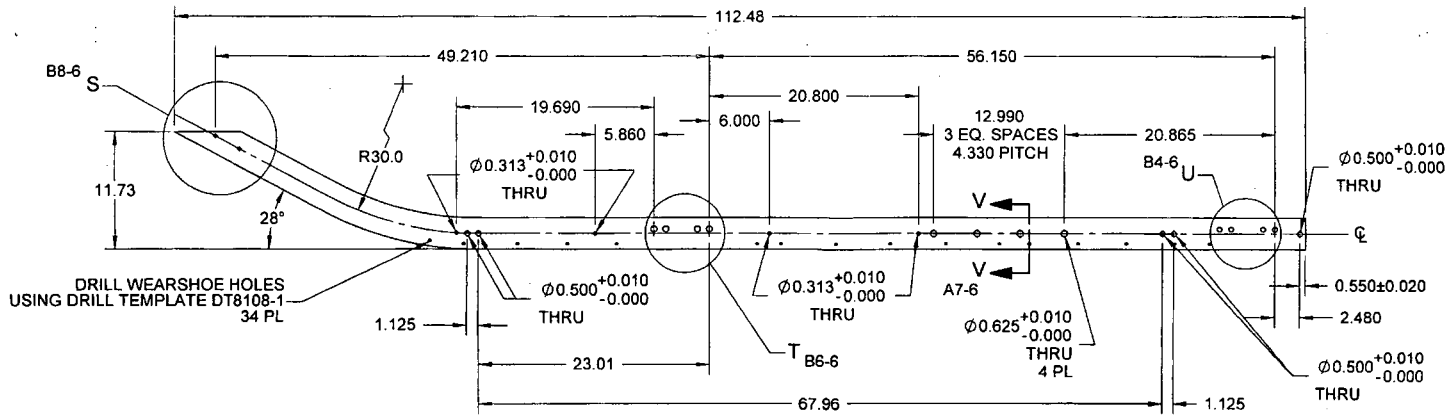
SECTION R-R
SCALE 3X, 4 PL

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DE APPR.		TITLE 350 SKIDTUBE ASSEMBLY
DATE	08.07.16	SCALE NTS

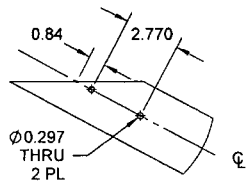
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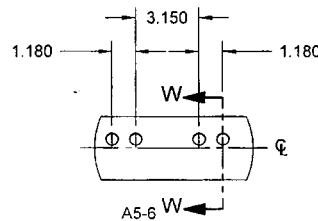


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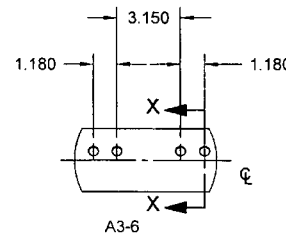
w/s 43848



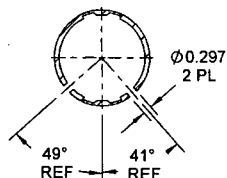
DETAIL S
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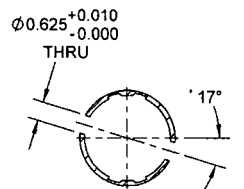
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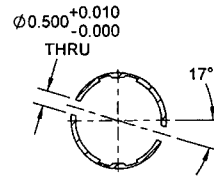
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL

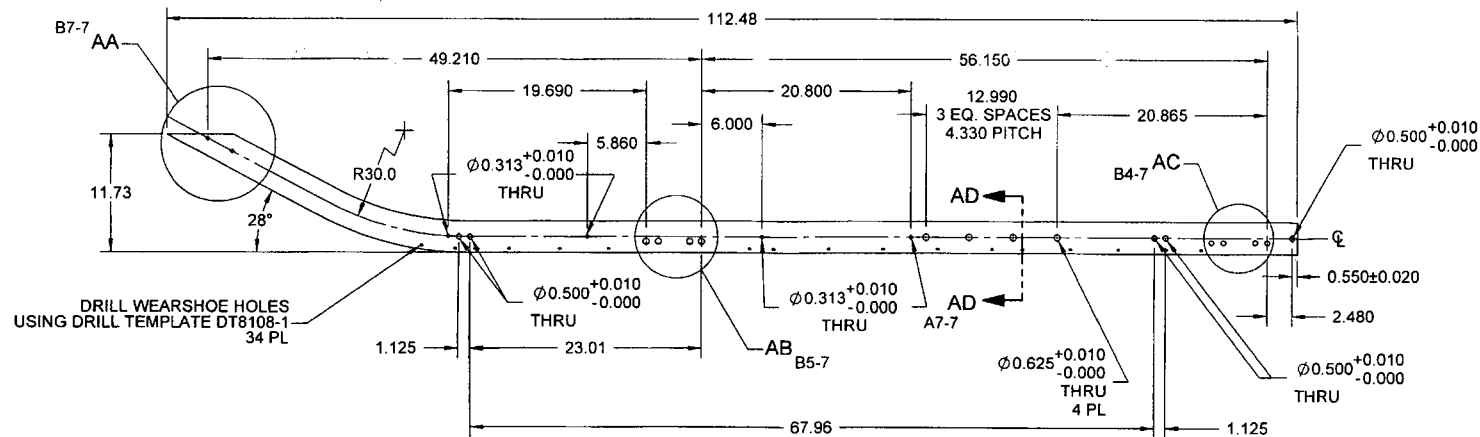


SECTION X-X
SCALE 3X, 4 PL

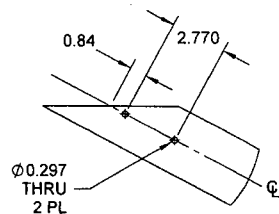
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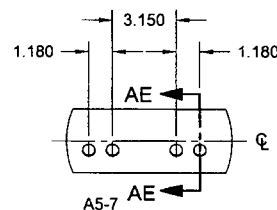
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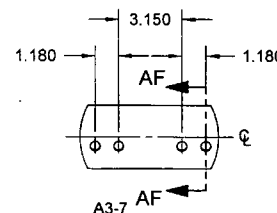
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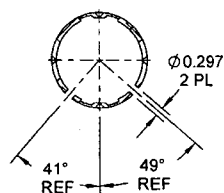
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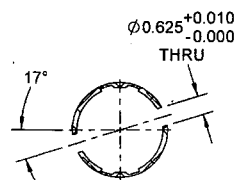
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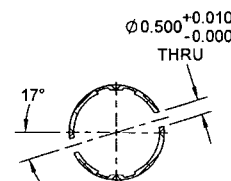
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL

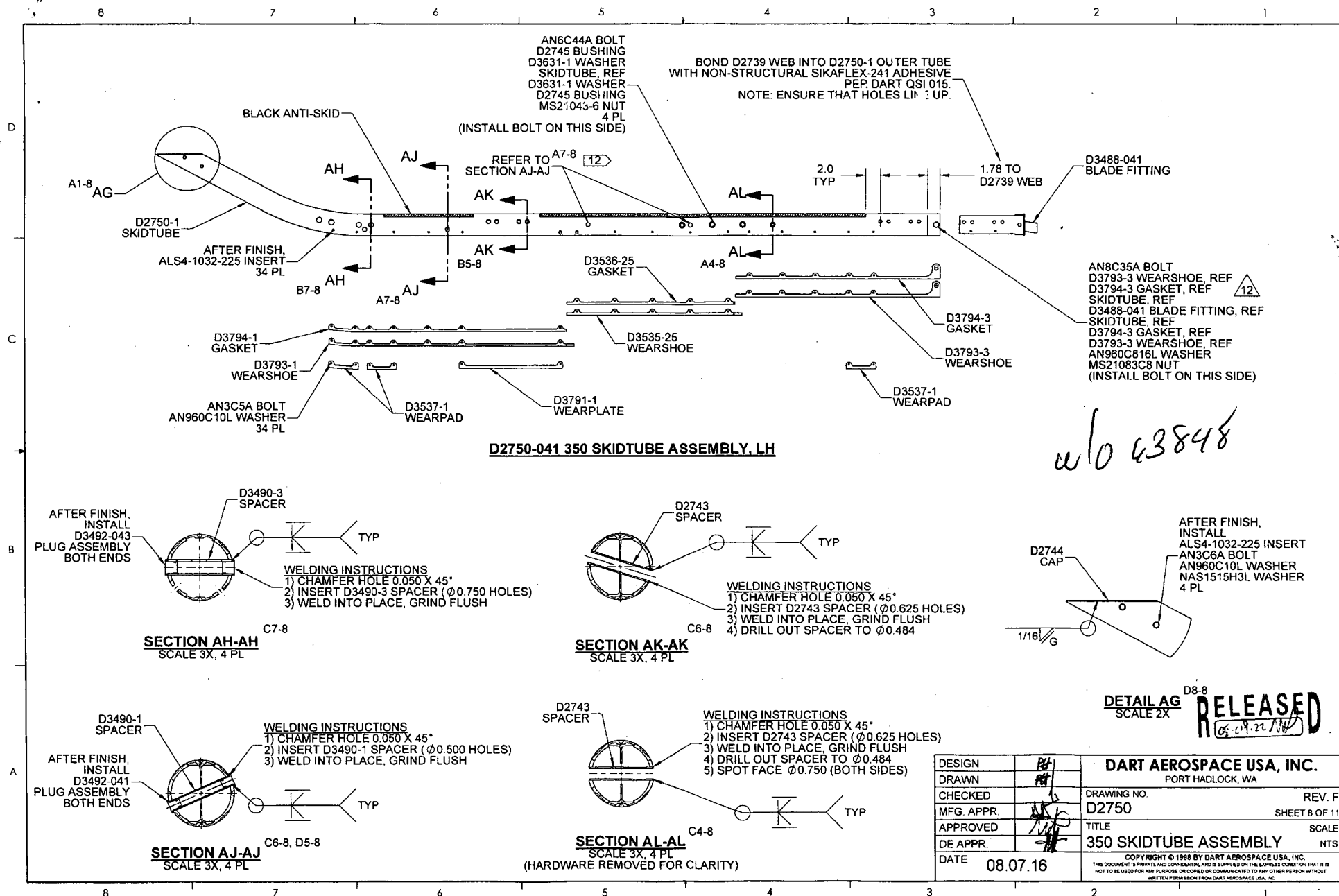


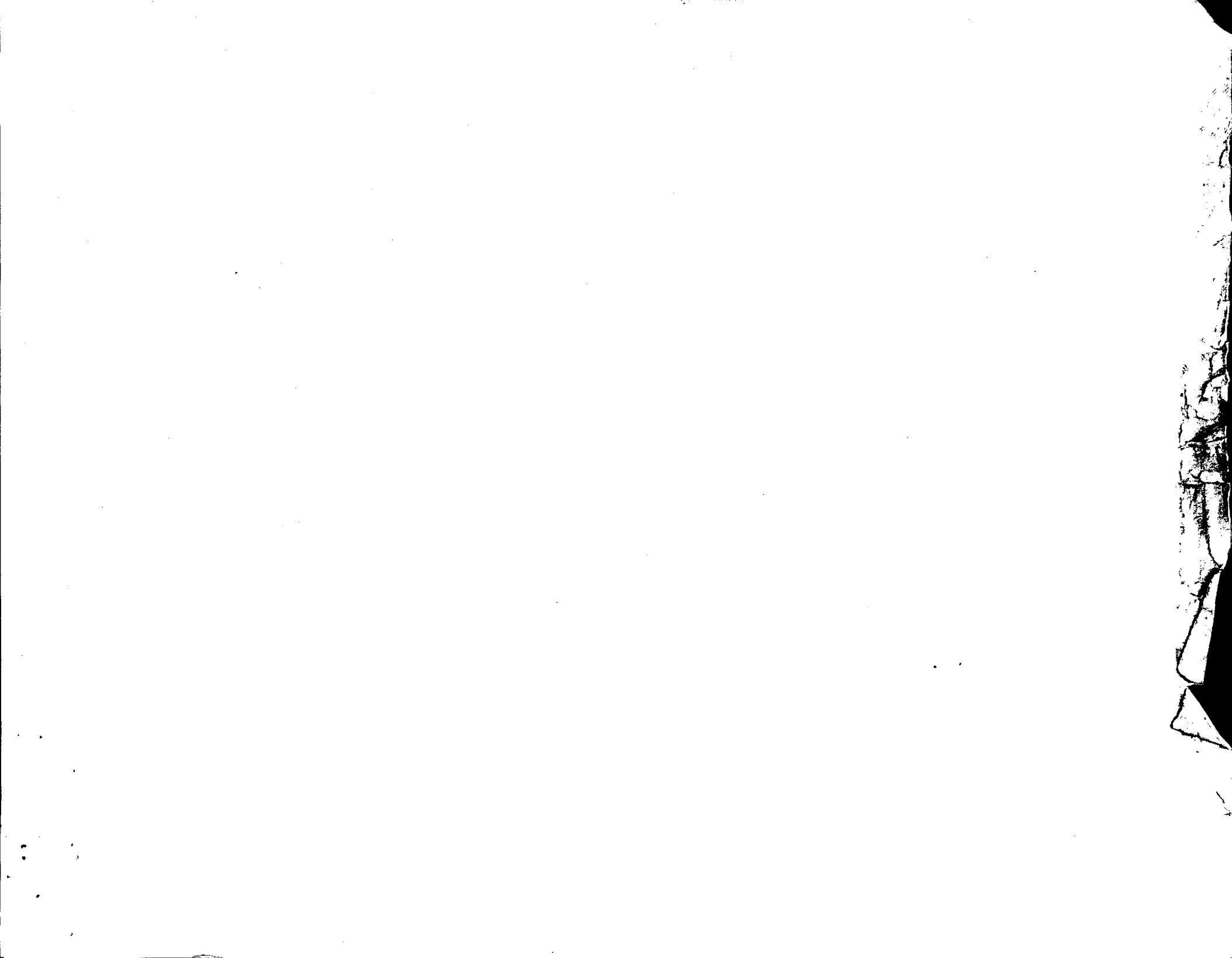
SECTION AF-AF
SCALE 3X, 4 PL

w/o 63848

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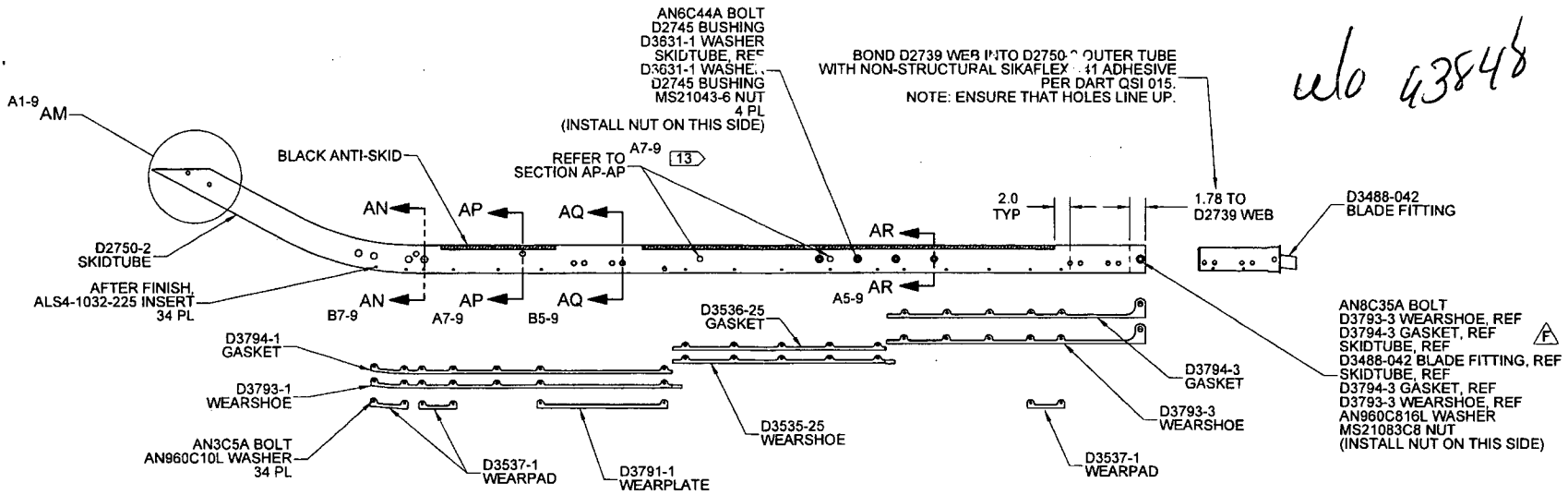
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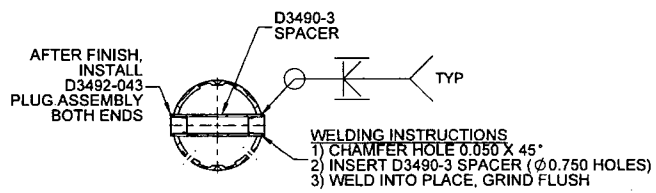


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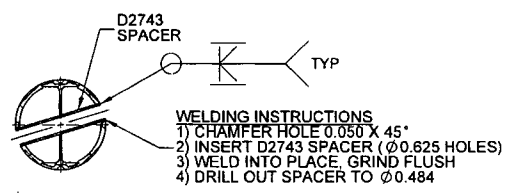
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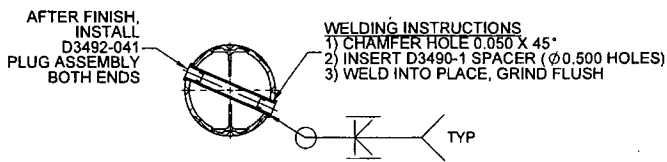
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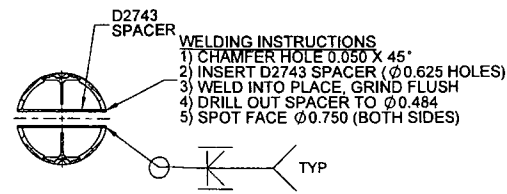
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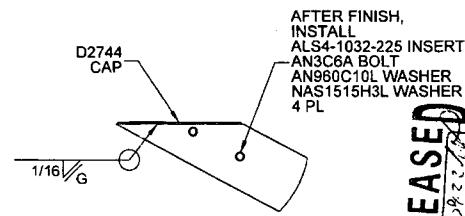
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SECTION AP-AP
SCALE 3X, 4 PL



SECTION AR-AR
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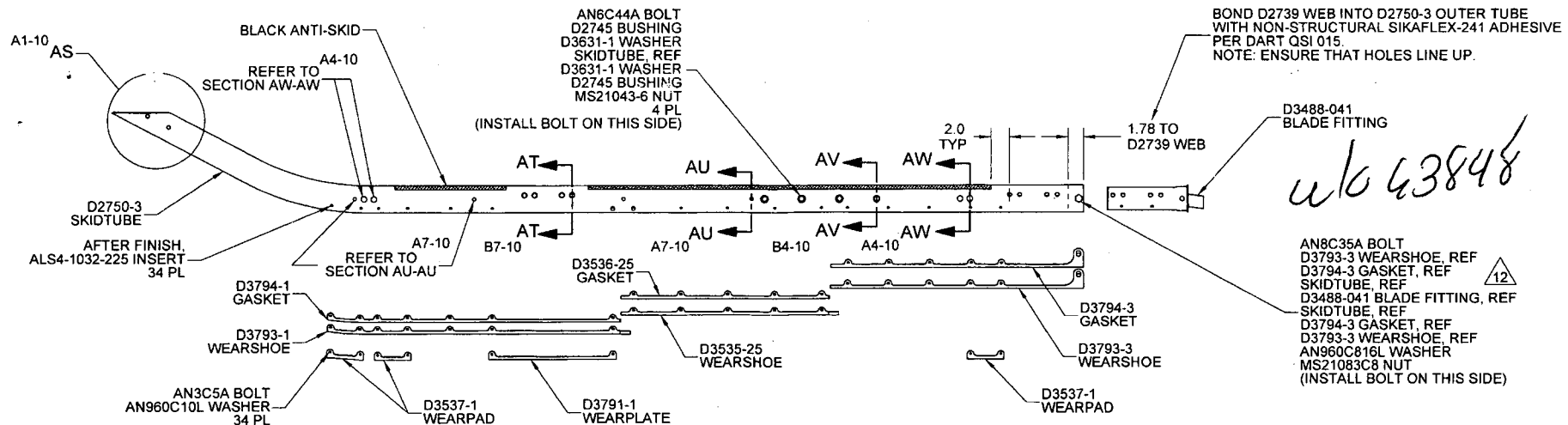


DETAIL AM
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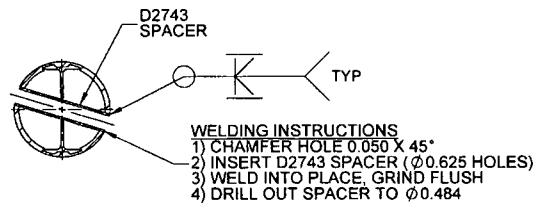
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MFG. APPR.	REV. 1	TITLE	SHEET 9 OF 11
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DE APPR.	REV. 1	350 SKIDTUBE ASSEMBLY	
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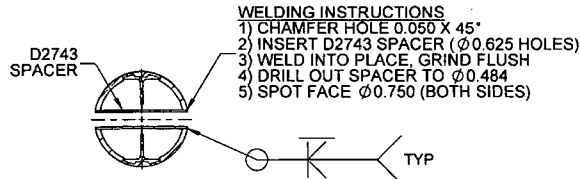
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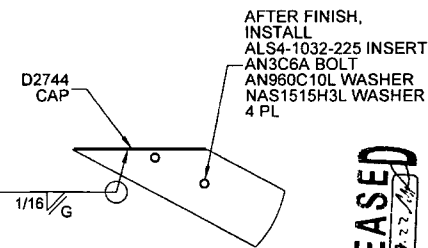
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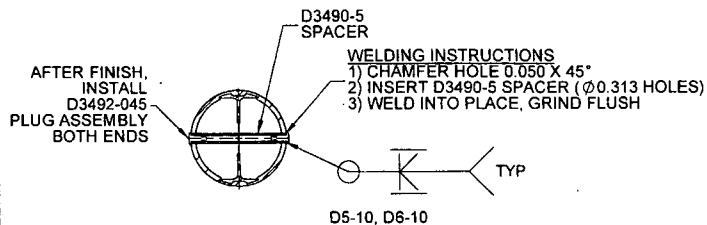
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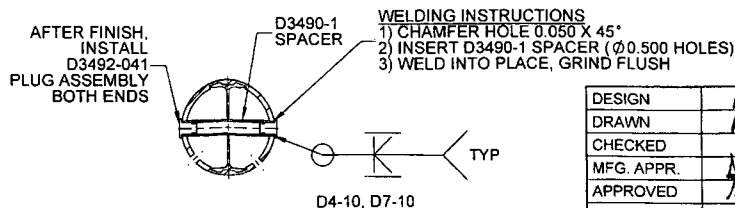
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DETAIL AS SCALE 2X



SECTION AU-AU SCALE 3X, 4 PL



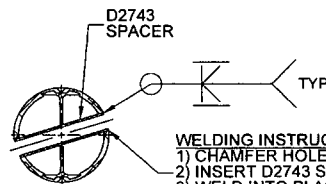
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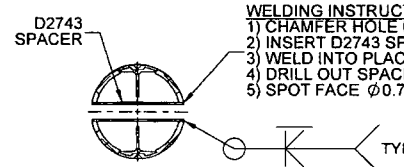
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2018-08-22

A1-11
BA

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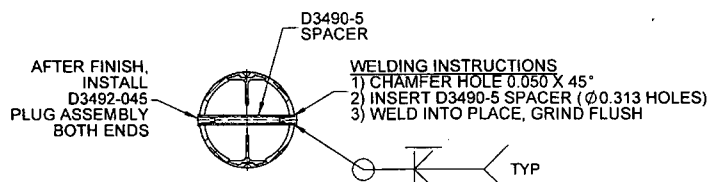
REFER TO
SECTION BE-BEAN6C44A BOLT
D2745 BUSHING
D3631-1 WASHER
SKIDTUBE, REF
D3631-1 WASHER
D2745 BUSHING
MS21043-6 NUT
4 PL
(INSTALL NUT ON THIS SIDE)BOND D2739 WEB INTO D2750-4 OUTER TUBE
WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE
PER DART QSI 015.
NOTE: ENSURE THAT HOLES LINE UP.D2750-4
SKIDTUBEAFTER FINISH,
ALS4-1032-225 INSERT
34 PLREFER TO
SECTION BC-BCD3794-1
GASKETD3793-1
WEARSHOEAN3C5A BOLT
AN960C10L WASHER
34 PLD3537-1
WEARPADD3791-1
WEARPLATED3536-25
GASKETD3535-25
WEARSHOED3537-1
WEARPADD3794-3
GASKETD3793-3
WEARSHOED3488-042
BLADE FITTINGAN8C35A BOLT
D3793-3 WEARSHOE, REF
D3794-3 GASKET, REF
SKIDTUBE, REF
D3488-042 BLADE FITTING, REF
SKIDTUBE, REF
D3794-3 GASKET, REF
D3793-3 WEARSHOE, REF
AN960C816L WASHER
MS21083C8 NUT
(INSTALL NUT ON THIS SIDE)**D2750-044 350 SKIDTUBE ASSEMBLY, RH**WELDING INSTRUCTIONS
1) CHAMFER HOLE 0.050 X 45°
2) INSERT D2743 SPACER (Ø0.625 HOLES)
3) WELD INTO PLACE, GRIND FLUSH
4) DRILL OUT SPACER TO Ø0.484**SECTION BB-BB**
SCALE 3X, 4 PL

D6-11

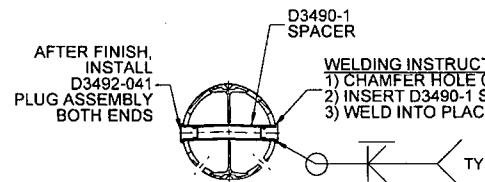
WELDING INSTRUCTIONS
1) CHAMFER HOLE 0.050 X 45°
2) INSERT D2743 SPACER (Ø0.625 HOLES)
3) WELD INTO PLACE, GRIND FLUSH
4) DRILL OUT SPACER TO Ø0.484
5) SPOT FACE Ø0.750 (BOTH SIDES)**SECTION BD-BD**
SCALE 3X, 4 PL

(HARDWARE REMOVED FOR CLARITY)

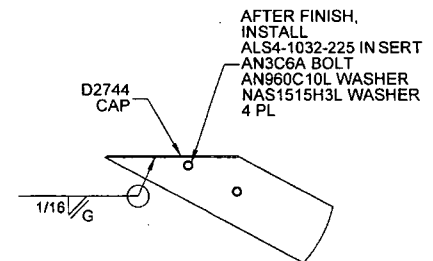
D4-11

AFTER FINISH,
INSTALL
D3492-045
PLUG ASSEMBLY
BOTH ENDSWELDING INSTRUCTIONS
1) CHAMFER HOLE 0.050 X 45°
2) INSERT D3490-5 SPACER (Ø0.313 HOLES)
3) WELD INTO PLACE, GRIND FLUSH**SECTION BC-BC**
SCALE 3X, 4 PL

D5-11, C6-11

AFTER FINISH,
INSTALL
D3492-041
PLUG ASSEMBLY
BOTH ENDSWELDING INSTRUCTIONS
1) CHAMFER HOLE 0.050 X 45°
2) INSERT D3490-1 SPACER (Ø0.500 HOLES)
3) WELD INTO PLACE, GRIND FLUSH**SECTION BE-BE**
SCALE 3X, 4 PL

D4-11, D7-11

**DETAIL BA**
SCALE 2X

D8-11

DESIGN	
DRAWN	
CHECKED	
MFG. APPR.	
APPROVED	
DE APPR.	
DATE	08.07.16

DART AEROSPACE USA, INC.
PORT HADLOCK, WADRAWING NO.
D2750
TITLE
350 SKIDTUBE ASSEMBLY
REV. F
SHEET 11 OF 11
SCALE
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NO. 239

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 61946 61914
Part number: D350.636.012
Description: 350 skid
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier J.D. Date of Test Coupon 10.09.30

Welder Barclay Elliott Date of Test Coupon 10.09.30

The above named individual is qualified in accordance with AWS D17.1.2001 to weld